

COURSE SYLLABUS – ChE 390

| <i>COURSE TITLE</i> | <i>ENGLISH CODE/NO</i> | <i>ARABIC CODE/NO</i> | <i>CREDITS</i> | | | | |
|---|------------------------------|-----------------------|----------------|------------|------------|------------|--------------|
| | | | <i>Th.</i> | <i>Pr.</i> | <i>Tr.</i> | <i>Tu.</i> | <i>Total</i> |
| Summer Training | ChE 390 | 390هـم | -- | -- | 400 | -- | 2 |
| Pre-requisites: | ChE 334 | | | | | | |
| Course Role in Curriculum | <i>Required or Elective:</i> | | | Required | | | |
| | <i>A pre-requisite for:</i> | | | | | | |
| Catalogue Description: 10 weeks of training in industry under the supervision of a faculty member. Students have to submit a report about their achievements during training in addition to any other requirements assigned by the Department | | | | | | | |

Textbooks:

None

Supplemental Materials:

None

Course Learning Outcomes:*By the completion of the course the student should be able to:*

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| 1. | Formulate an objective or mission statement that identify the real problem and describe the expected outcomes of the training activity. |
| 2. | Break-down a work environment into its units and work functions, and describe how these units are assembled into a whole entity. |
| 3. | Describe a professional organizational structure, its size and how it is related to its main products and to market issues. |
| 4. | Exhibit integrity, punctuality, and ethical behavior in engineering practice and relationships. |
| 5. | Demonstrate enthusiasm and business focusing. |
| 6. | Establish successful relationships with team members, advisors, and clients to understand their needs and to achieve or exceed agreed-upon quality standards. |
| 7. | Maintain focus to complete important tasks on time and with high quality, amidst multiple demands |
| 8. | Relate practical work to previous knowledge from basic sciences, engineering fundamentals, and discipline related courses. |
| 9. | Collect and review related data such as technical information, regulations, standards, and operational experiences from credible literature resources |
| 10. | Utilize prior knowledge, independent research, published information, and original ideas in addressing problems and generating solutions |
| 11. | Monitor achievement, identify causes of problems, and revise processes to enhance satisfaction |
| 12. | Communicate , clearly and concisely, training details and gained experience, both orally and in writing, using necessary supporting material, to achieve desired understanding and impact. |

Topics to be Covered:**Duration in Weeks**

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|----|---|---|
| 1. | Acquainting the trainee by the company, its work environment, organizational structure, products, costumers, engineering units, and quality system | 2 |
| 2. | Familiarizing the trainee of one production or design unit with deep understanding of the work environment, regulations, standards, etc... | 1 |
| 3. | Allocating the trainee to a project team and allowing him to study and collect necessary data about the project using internal and external data sources. | 1 |
| 4. | Working as a team member to execute assigned tasks | 6 |

Key Student Outcomes addressed by the course: (Put a √ sign)

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|-----|---|---|
| (a) | an ability to apply knowledge of mathematics, science, and engineering | |
| (b) | an ability to design and conduct experiments, as well as to analyze and interpret data | |
| (c) | an ability to design a system, component, or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability | √ |
| (d) | an ability to function on multidisciplinary teams | √ |
| (e) | an ability to identify, formulate, and solve engineering problems | √ |
| (f) | an understanding of professional and ethical responsibility | √ |
| (g) | an ability to communicate effectively | √ |
| (h) | the broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context | √ |
| (i) | a recognition of the need for, and an ability to engage in life-long learning | √ |
| (j) | a knowledge of contemporary issues | √ |
| (k) | an ability to use the techniques, skills, and modern engineering tools necessary for engineering practice. | √ |

Key Student Outcomes assessed in the course: (f), (g), (h), (j) and (k)

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| Course Coordinator: | Prof. Hamad Al-Turaif |
| Last updated : | January 2015 |